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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,425	11/04/2005	Vito Alanzo	LSP-1011US	3149

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EXAMINER	
SERGENT, RABON A	
ART UNIT	PAPER NUMBER
1765	

NOTIFICATION DATE	DELIVERY MODE
06/23/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/537,425	ALANZO ET AL.	
	Examiner	Art Unit	
	Rabon Sergent	1765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 January 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 15, 2010 has been entered.

2. Claims 1-5 and 15-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The examiner has not found support for the equivalent ratio of the isocyanate groups and the blocking agent. While the examiner has found support for the range, 1:0.98 to 1:1.30, the latitude afforded by the use of the term, "about", causes the range as set forth within claim 1 to encompass values other than those disclosed.

Furthermore, the examiner has not found support for the previous amendment specifying the content of the free isocyanate groups in the non-ionic –N=C=O blocked polyisocyanates. However, the examiner has found support for specifying the claimed content in the oligomer prior to blocking.

3. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Firstly, within claims 1 and 6, applicants have set forth variables R_2 and R^2, which causes confusion. Correction is required.

Secondly, with respect to claim 1, the reference to free isocyanate groups in the non-ionic –N=C=O blocked polyisocyanates renders the claims indefinite, because if the polyisocyanates are blocked, then it is unclear how there can be free isocyanate groups. This is even more evident in view of the recited ratio of isocyanate groups to blocking agent, since the ratio would be expected to result in the blocking of virtually all isocyanate groups.

Thirdly, with respect to claims 4 and 8, it is unclear if applicants intend to mandate that both the isocyanurate and the TDI reaction product be present.

Fourthly, with respect to step b. within claim 6, the use of the word, "if", appears to be improper.

Fifthly, with respect to claim 9, the parts by weight limitation renders the claims indefinite, because, without a reference specifying to what the parts are relative, the limitation is virtually meaningless.

Sixthly, with respect to claim 11, applicants have failed to set forth a basis for the claimed weight percent; it is unclear if the weight percent is based on the weight of the non-ionic blocked polyisocyanates or some other entity.

Seventhly, with respect to claim 12, improper Markush language has been set forth; the word, "selected", should be inserted after "is" within line 2 of the claim.

Lastly, with respect to claims 16 and 17, applicants have failed to set forth a basis for the claimed weight percents; it is unclear if the weight percents are based on the weight of the paste or some other entity.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-3, 5-7, 11, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baumbach et al. ('536) in view of Buter et al. (WO 97/19120) or Ishiyama et al ('867).

Baumbach et al. teach blocked non-ionic water dispersible polyisocyanates and a method of their production comprising the reaction of (i) polyisocyanate and (ii) ethylene oxide based dihydroxy polyether, thereby forming an intermediate having free isocyanate groups which are then masked with (iii) isocyanate blocking agent. See abstract; column 3, lines 45-49; column 4, lines 59-66. In particular, (iii) consists of butanone oxime and 3,5-dimethylpyrazole. The resulting blocked polyisocyanate is then dispersed in water resulting in a solid's content as low as 20 wt%. See column 4, lines 56-58. Patentees fail however to teach compounds corresponding to the claimed non-ionic alkoxylated diol. Baumbach et al. exemplify pre-blocked isocyanate oligomers that possess applicants' NCO content. See example 1.

6. Buter et al. also teach water dispersible compounds that comprise the reaction product of polyisocyanate and ethylene oxide based dihydroxy polyether, wherein said polyether provides hydrophilicity to the resulting compound. See abstract and page 6 lines 2-4. Specifically, the polyethers consist of polyether-1,3-propanediols such as Tegomer D-3123, D-3409, and D-3403, all of which have structures which correspond to applicants' claimed non-ionic diol. See page 3, lines 1-6. Therefore, it would have been obvious to one of ordinary skill in the art to include the dihydroxy polyethers of Buter et al. in Baumbach et al since the polyethers of Buter et al. satisfy the requirements set forth by Baumbach et al. at column 3 lines 45-49, and it is *prima facie* obvious to add a known ingredient for it's known function. *In re Linder*, 173 USPQ 356; *In re Dial et al.*, 140 USPQ 244.

7. Similarly, Ishiyama et al. teach water dispersible compounds comprising the reaction product of polyisocyanate and dihydroxy polyether having the same structure as claimed by applicants. See abstract; column 4, lines 29-32 and 50-60. Therefore, it would have also been obvious to include the polyether of Ishiyama et al. in Baumbach et al. based on the same logic set forth above for Buter et al.

8. The examiner has reviewed applicants' instant response and amendment of January 15, 2010 and the previous response of February 2, 2009. Accordingly, the examiner has maintained the previous rejection and reinstated the rejection of claims 6, 7, and 11, 12, and 14 over Baumbach et al. ('536) in view of Buter et al. (WO 97/19120) or Ishiyama et al ('867) for the following reasons. Applicants' arguments with respect to the presence of the hydrazide component of Baumbach et al. are not well-taken. Applicants have argued that the claimed equivalent ratios of isocyanate groups to blocking agent preclude the reaction with the hydrazide

component; however, claims 1 and 6 allow for equivalent ratios that permit a remaining quantity of isocyanate groups to be present for reaction with the hydrazide component.

9. Claims 4, 8-10, 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baumbach et al. ('536) in view of Buter et al (WO 97/19120) or Ishiyama et al. ('867) and further in view of Reiff et al. ('737).

As aforementioned, the prior art renders obvious a blocked non-ionic water-dispersible polyisocyanate and a method for its production, however patentees fail to teach polyisocyanates corresponding to claims 4, 8, 18, and 19, the methodology of claims 9 and 10, or applications corresponding to claims 15-17.

10. Reiff et al. teach water-dispersible blocked polyisocyanates comprising the reaction product of (i) polyisocyanates and (ii) non-ionic hydrophilic surfactants consisting of polyethylene oxide, which is then blocked with (iii) butanone oxime. See abstract; column 1, lines 11-25; column 7, lines 57-59; column 8, lines 42-52; and column 10, lines 50, 58-59, 65. Useful polyisocyanates consist of trimerized hexamethylene diisocyanate (HDI) and modified toluene diisocyanate (TDI), wherein said modified TDI is reacted with trimethylol propane and the TDI consists of 2,4 and 2,6 isomers present in a ratio of 80:20 by weight. See column 3, lines 30-31 and 35-36 and column 18, lines 65-67. Hence, it would have been obvious to utilize the polyisocyanate of Reiff et al in the composition of Baumbach et al based on the motivation that Reiff et al teach them useful in analogous applications and it is prima facie obvious to add a known ingredient for its known function. *In re Linder*, 173 USPQ 356; *In re Dial et al.*, 140 USPQ 244.

11. Furthermore, the blocking reaction takes place in methyl ethyl ketone solvent in an

amount corresponding to applicants' claimed range, and therefore it would have been obvious to arrive at applicants' claimed solvent content based on the motivation that it is the preferred amount when blocking polyisocyanates with butanone oxime blocking agents. See column 11, lines 20-28, 65-67 and column 12, lines 1-3, within Reiff et al.

12. Finally, Reiff et al. explain that the water-dispersible blocked polyisocyanates are useful in oil and/or water repellent textile coatings, and these coatings may further comprise perfluorinated polymeric compounds present in amounts relative to the blocked polyisocyanate of 1:1 to 1:12. See column 1, lines 11-15; column 11, lines 3-8 and 45-50; column 13, lines 19-25, 48-51; and column 16, lines 62-64. The blocked polyisocyanates may also be combined with "impregnating liquor" at a concentration of 0.5-5-wt% which is taken to satisfy claims 16 & 17.

13. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the blocked polyisocyanates of Baumbach et al. in oil and water repellant textile coatings based on the motivation that Baumbach et al. and Reiff et al. have analogous compositions and in obviousness rejections based on close similarity in chemical structure, the necessary motivation to make a claimed compound, and thus a *prima facie* case of obviousness, rises from the expectation that compounds similar in structure will have similar properties. *In re Gyruik*, 596 F. 2d 1012, 201 USPQ 552 (CCPA 1979).

14. Applicants' arguments have been addressed within paragraph 8. Furthermore, for the reasons set forth above, the rejection of claims 8-10 has been reinstated.

15. Claims 1-3, 5-7, and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonderko et al. (2002/0061999) in view of Buter et al. (WO 97/19120) or Ishiyama et al. ('867).

Jonderko et al. teach reversibly blocked non-ionic water dispersible polyisocyanates and a method of their production comprising the reaction of (i) polyisocyanate and (ii) ethylene oxide based dihydroxy polyether, thereby forming an intermediate having free isocyanate groups which are then masked with (iii) isocyanate blocking agent. See abstract and paragraphs 2 and 9-11. Component (i) is reacted with (ii) at 60°C, then reacted with (iii) in the presence methyl ethyl ketone solvent, wherein (iii) consist of dimethyl pyrazole and methyl ethyl ketoxime, which is chemically synonymous with butanone oxime. See paragraphs 21, 31, 40, and 55; and claim 14. Furthermore, (iii) is present relative to the free NCO groups in a slight stoichiometric excess, which is taken to satisfy the claimed equivalent ratios. See paragraph 40. However, Jonderko et al fail to teach the claimed dihydroxy polyether.

16. As previously discussed, Buter et al also teach water dispersible compounds that comprise the reaction product of polyisocyanate and ethylene oxide based dihydroxy polyether, wherein said polyether consists of the same compounds claimed by applicants. Therefore, it would have been obvious to one of ordinary skill in the art to include the polyethers of Buter et al. in Jonderko et al., since they are disclosed by Buter et al as being suitable for rendering analogous compositions hydrophilic, and it is *prima facie* obvious to add a known ingredient for it's known function. *In re Linder*, 173 USPQ 356; *In re Dial et al.*, 140 USPQ 244.

17. Similarly, as aforementioned Ishiyama et al. teach water dispersible compounds comprising the reaction product of polyisocyanate and ethylene oxide based dihydroxy polyether having the same structure as claimed by applicants. See abstract and column 4, lines 29-32 and 50-60. Therefore, it would have also been obvious to include the polyether of Ishiyama et al. in Baumbach et al. based on the same logic set forth for Buter et al.

18. Claims 4, 8-10 and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonderko et al. (2002/0061999) in view of Buter et al. (WO 97/19120) or Ishiyama et al. ('867) and in further view of Reiff et al. ('737).

As aforementioned, Jonderko et al. in view of Buter et al. and Ishiyama et al. render obvious a non-ionic blocked polyisocyanate composition, however the prior art is silent in specifying the amount of solvent, applications that correspond to claims 15-17 or the polyisocyanates of claims 4, 8, 18, & 19.

19. As aforementioned, Reiff et al. teach water-dispersible blocked polyisocyanates based on trimerized HDI and modified TDI which are blocked with butanone oxime in the presence of methyl ethyl ketone solvent, wherein said solvent is present in amount that satisfies the limitations of claim 9. Therefore, it would have been obvious to utilize trimerized HDI and modified TDI in Jonderko et al. based on the motivation that Reiff et al. teach them to be useful in applications analogous to Jonderko et al., and it is *prima facie* obvious to add a known ingredient for its known function. *In re Linder*, 173 USPQ 356; *In re Dial et al.*, 140 USPQ 244. It would also have been obvious to arrive at applicants' claimed solvent content of claim 9 based on the motivation that it is disclosed as being the preferred amount when blocking polyisocyanates with butanone oxime blocking agents.

20. Finally, Reiff et al. explain that the water-dispersible blocked polyisocyanates preferably have a solids content between 25 and 50-wt%, the hydrophilic polyisocyanates are useful in oil and/or water repellent textile coatings, and these coatings may further comprise perfluorinated polymeric compounds present in amounts relative to the blocked polyisocyanate of 1:1 to 1:12, which satisfies claim 15. See column 1, lines 11-15; column 11, lines 3-8 and 45-50; column 13,

lines 19-25, 48-51; and column 16, lines 62-64. The blocked polyisocyanates may also be combined with "impregnating liquor" at a concentration of 0.5-5-wt% which is taken to satisfy claims 16 & 17.

21. Therefore, it would have been obvious to one of ordinary skill in the art to utilize the blocked polyisocyanates of Jonderko et al. in oil and water repellant textile coatings based on the motivation that the prior art teach analogous compositions and in obviousness rejections based on close similarity in chemical structure, the necessary motivation to make a claimed compound, and thus a *prima facie* case of obviousness, rises from the expectation that compounds similar in structure will have similar properties. *In re Gyruik*, 596 F. 2d 1012, 201 USPQ 552 (CCPA 1979).

22. Finally, it would have been obvious to utilize the solids content of Reiff et al. in Jonderko et al. since it is the preferred range for oil and water repellent textile coatings; in order to successfully employ the water-dispersible blocked polyisocyanates in such applications, one would be motivated to use the solids content disclosed by Reiff et al.

23. Applicants' response has been fully considered; however, the response is insufficient to overcome the prior art rejections. Applicants' argument that the blocked polyisocyanate of Jonderko et al. is a powder and need not be stable in dispersion and that this reference and the instant invention are drawn to two very different concepts is not well taken. It is clearly disclosed within Jonderko et al. at paragraph [0049] that by incorporating the polyisocyanate adducts of the invention into water or other binder dispersions, it is possible to obtain **stable** dispersions. Furthermore, it is noted that applicants' claims do not set forth any limitations with respect to stability. Additionally, applicants fail to appreciate that Jonderko et al. clearly disclose

at paragraph [0024] that nonionic polyethers containing ethylene oxide units may be used to promote hydrophilicity. This teaching provides the requisite motivation to combine the primary and secondary references.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (571)272-1079.

/Rabon Sergent/
Primary Examiner, Art Unit 1765